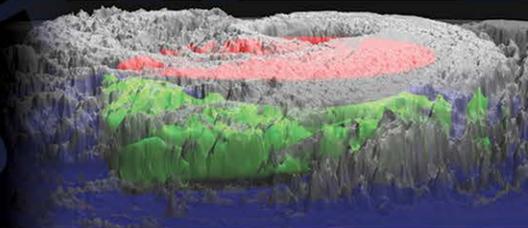




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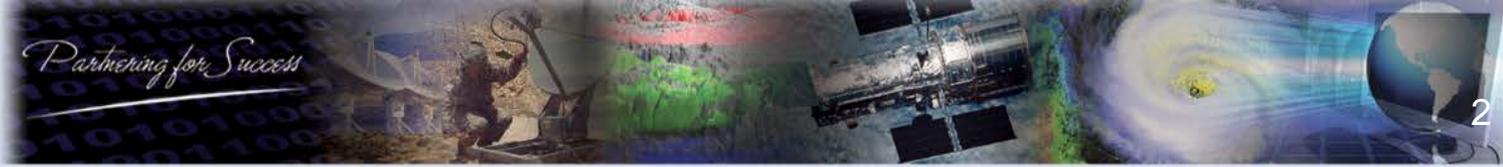
Partnering for Success



The National Mesonet Program (NMP)

Building Soil Data Delivery to NOAA and Growing the Use of Mesonet Data

National Soil Moisture Workshop



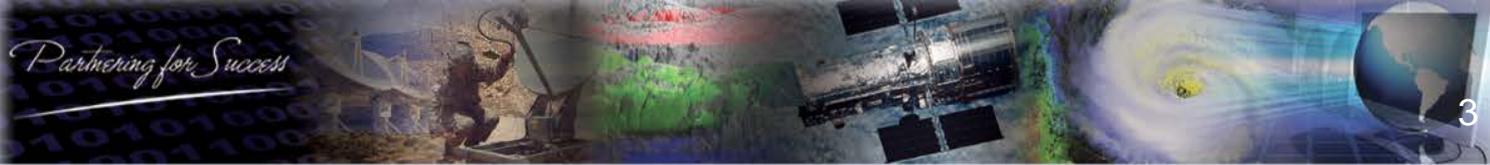
National Mesonet Program

The National Mesonet Program (NMP) brings non-federal meteorological data sources to the National Oceanic and Atmospheric Administration (NOAA), for use in operations at Weather Forecast Offices (WFO) and numerical modeling at the National Centers for Environmental Prediction (NCEP).

Thousands of automated weather stations are located across the country, servicing the needs of communities and businesses. The NMP harnesses these data assets for use by NOAA, as part of the Weather Ready Nation.



North Carolina mesonet station

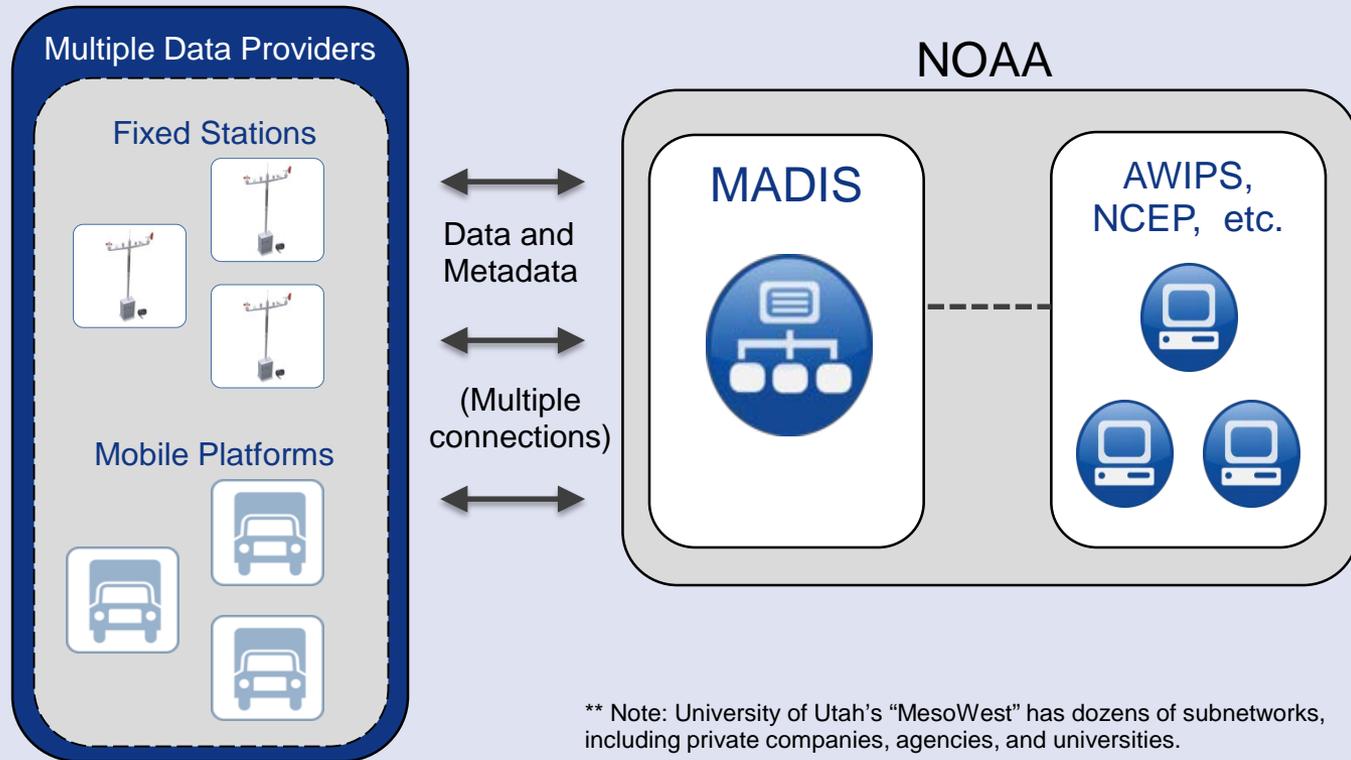


MADIS: Gateway to NOAA

Mesonets

- Earth Networks
- WeatherFlow
- Weather Telematics
- Sonoma Technology
- University of Oklahoma
- University of Utah**
- University of Delaware
- Rutgers, the State Univ. of NJ
- North Carolina State University
- Coastal Carolina University
- Western Kentucky University
- Texas Tech University
- University of Georgia
- University of Missouri
- University of Illinois
- Kansas State University
- University of South Alabama
- University of Florida
- University of Massachusetts
- Pennsylvania State University
- Washington State University
- Louisiana State University

- State University of New York
- Iowa State University
- Mississippi State University
- New Mexico State University
- North Dakota State University
- South Dakota State University
- University of Alabama
- Colorado State University
- Michigan State University

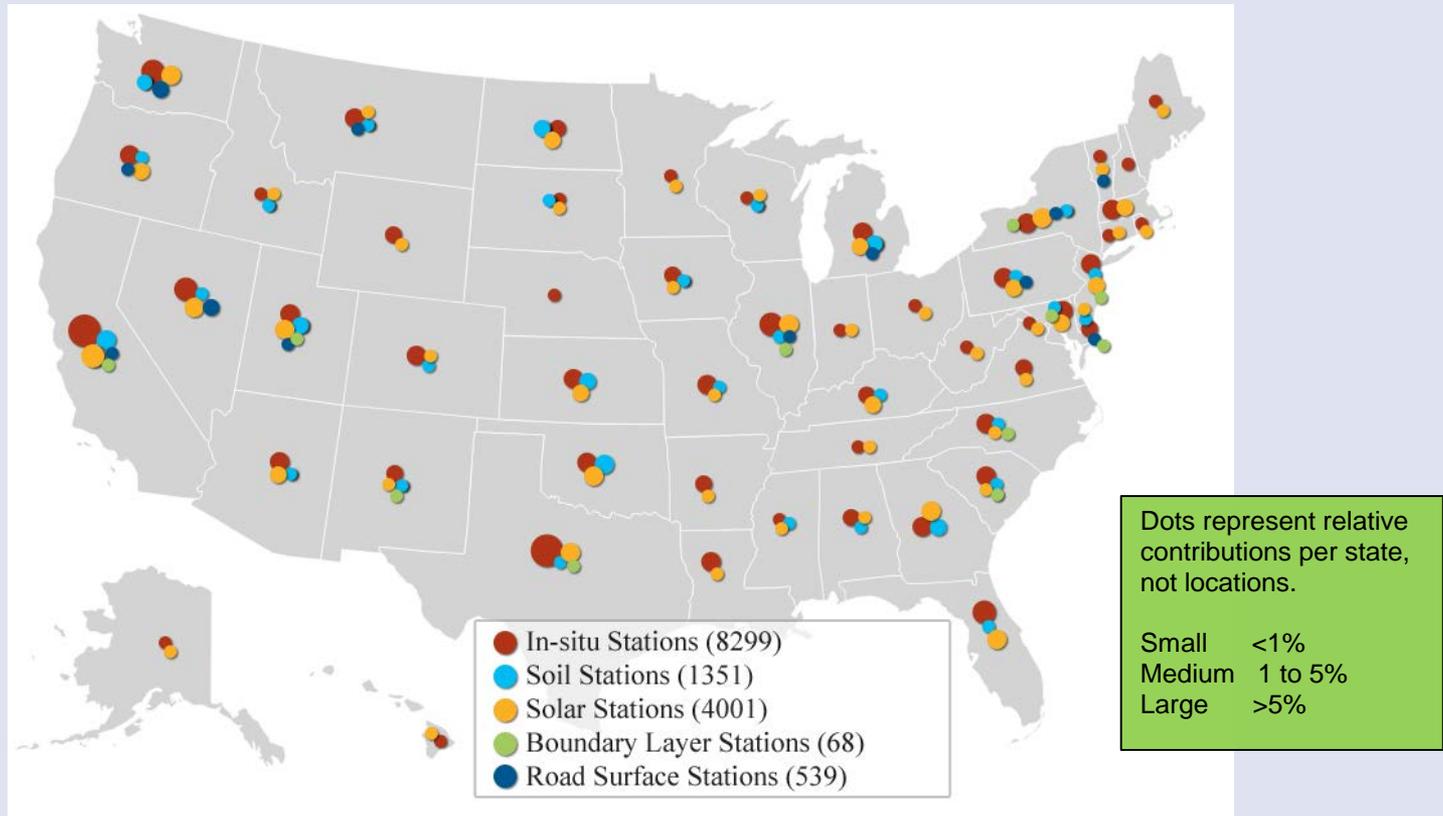


** Note: University of Utah's "MesoWest" has dozens of subnetworks, including private companies, agencies, and universities.

MADIS = Meteorological Assimilation Data Ingest System
 NCEP = National Centers for Environmental Prediction
 AWIPS = Advanced Weather Interactive Processing System



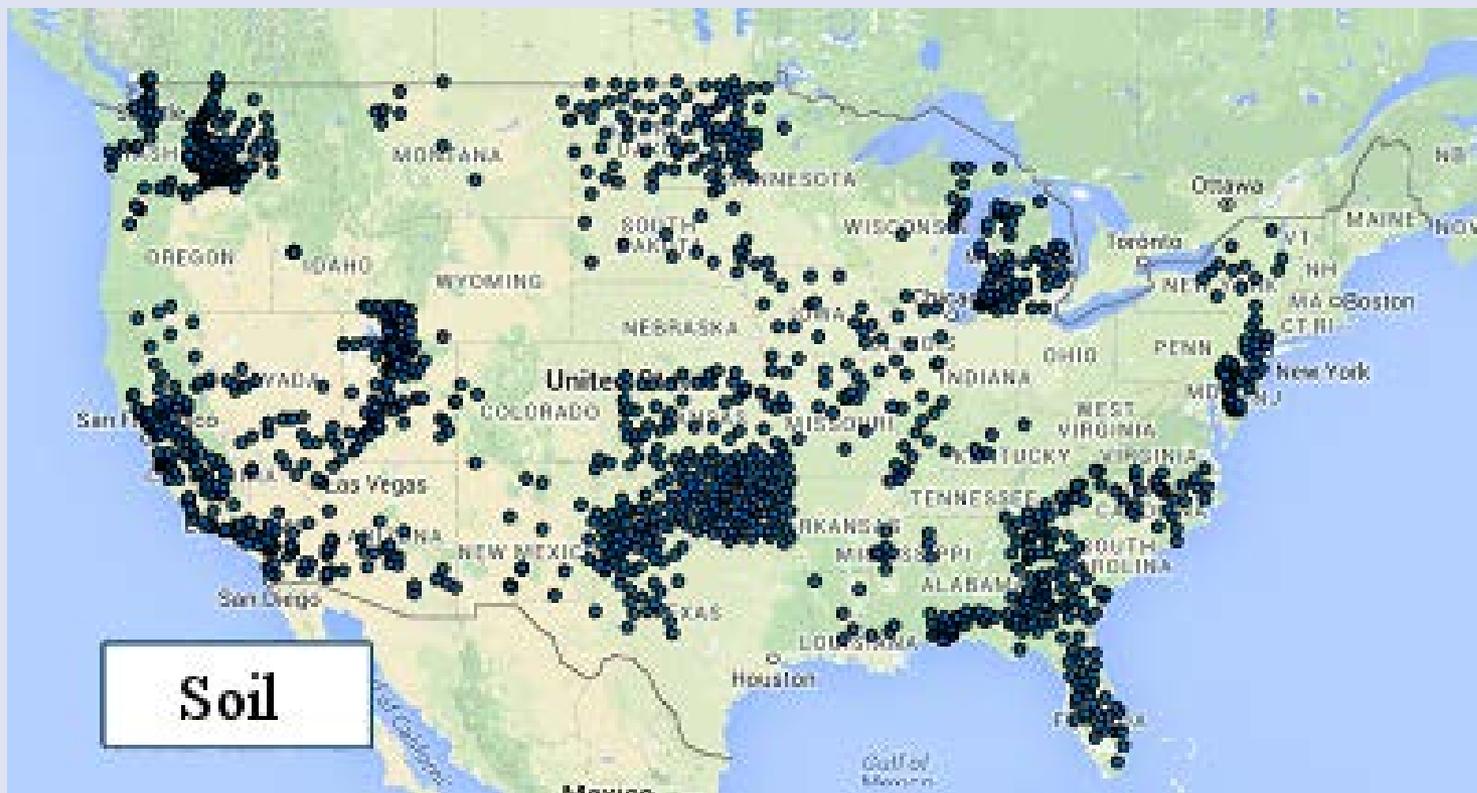
Geographic Coverage



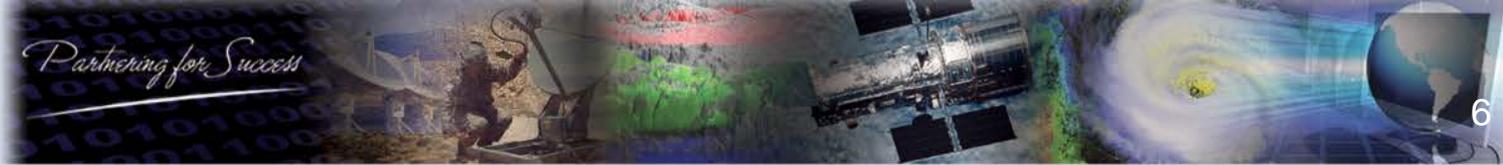
In the national footprint, there is still need for additional data coverage. There is limited NMP in-situ data reaching NOAA from several states. More soil data is needed from many northern states and parts of “Dixie Alley”.



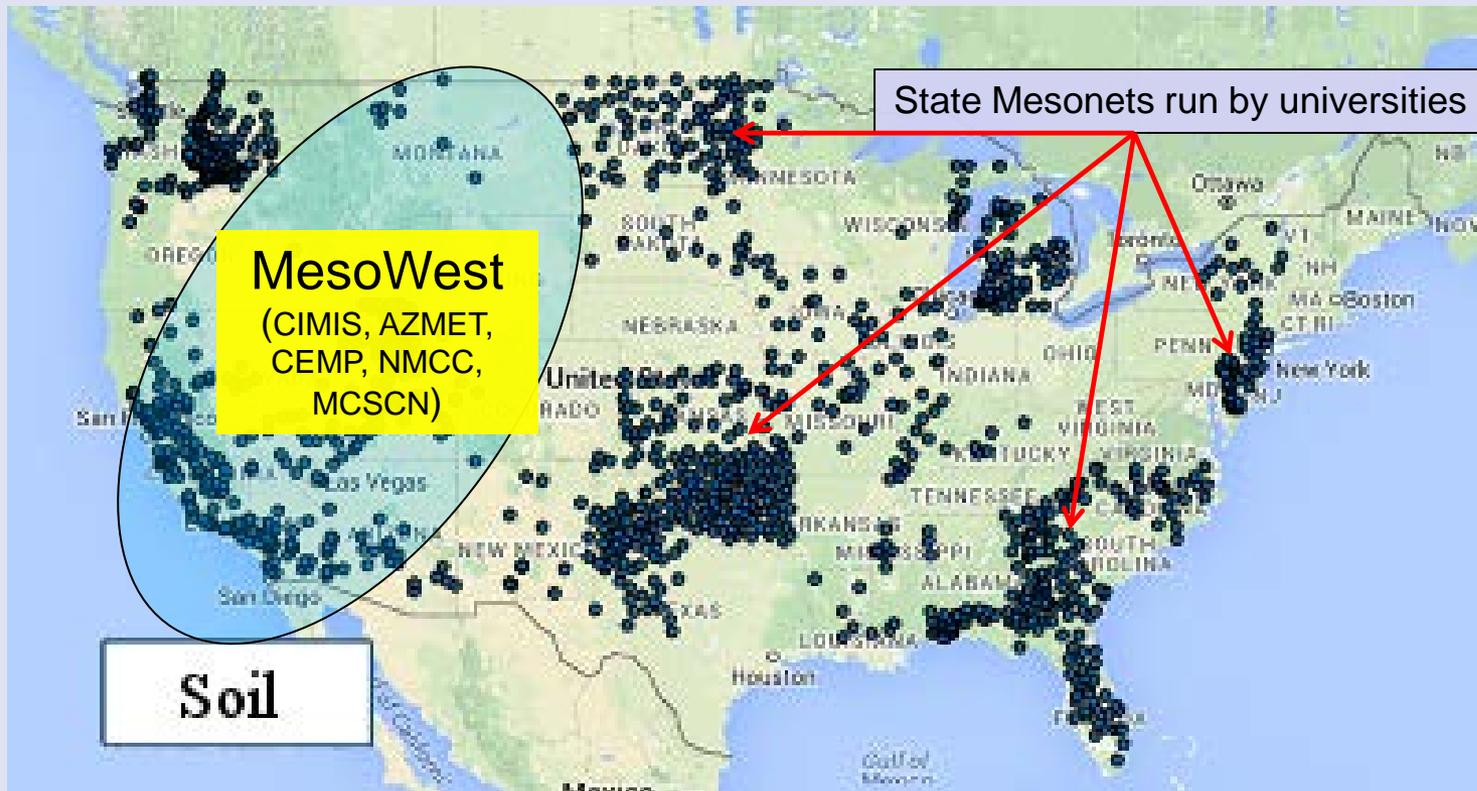
Geographic Coverage



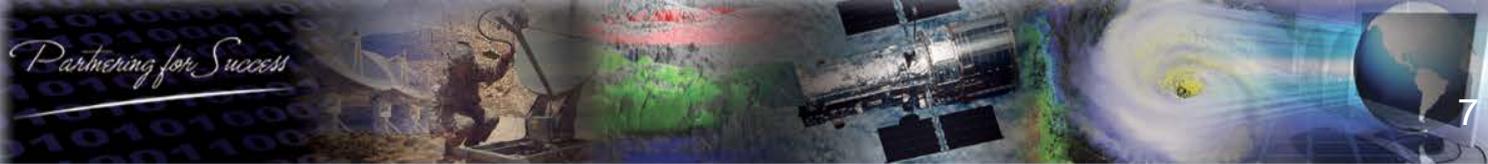
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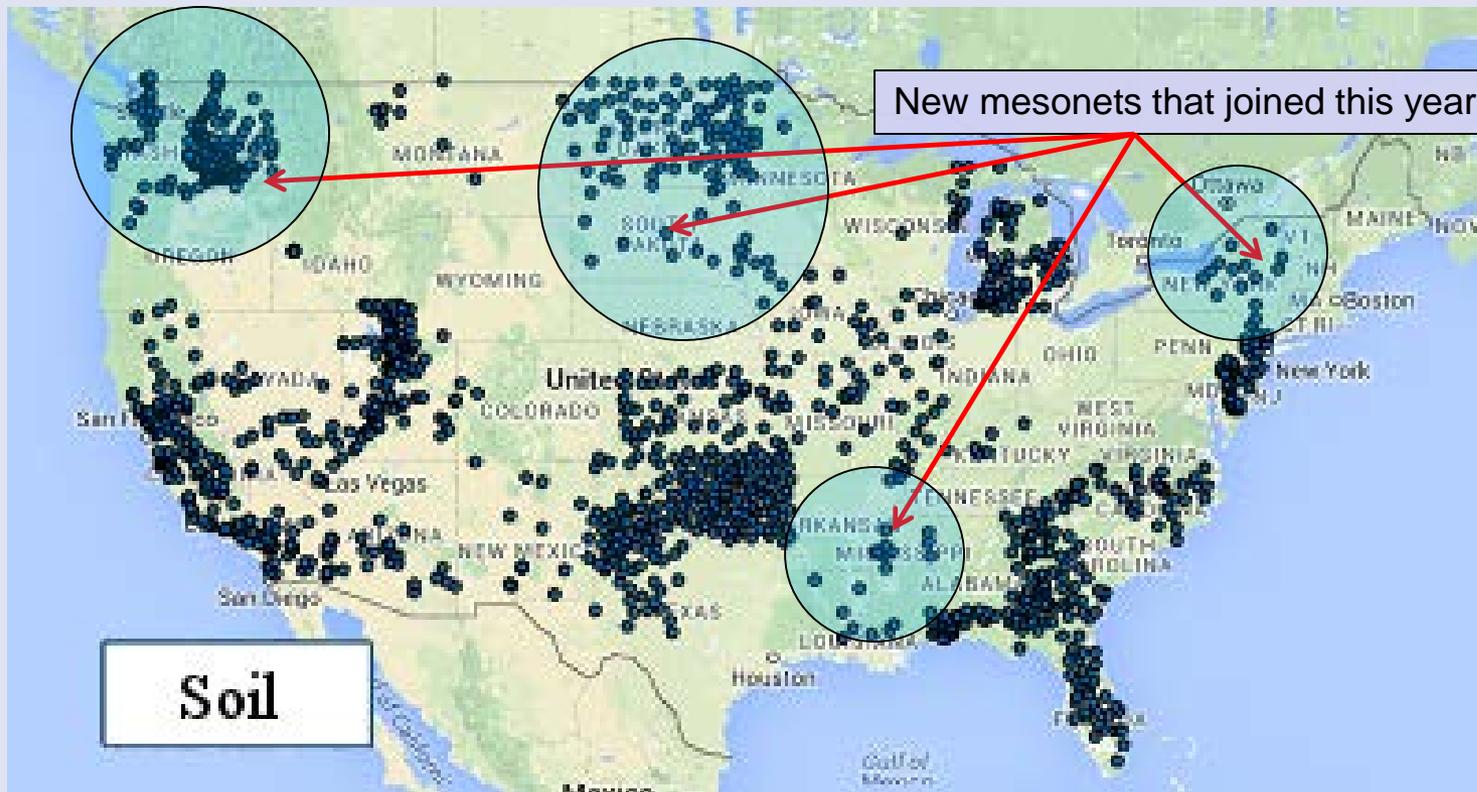
Geographic Coverage



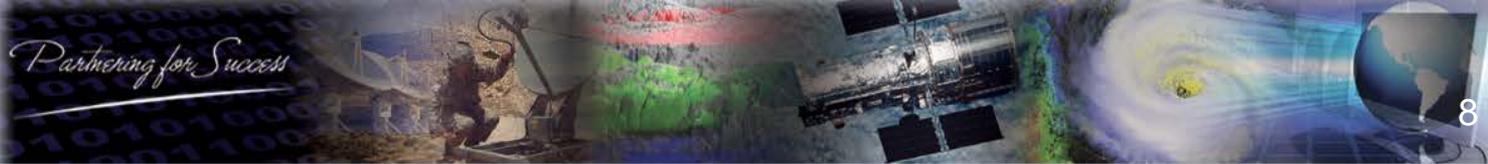
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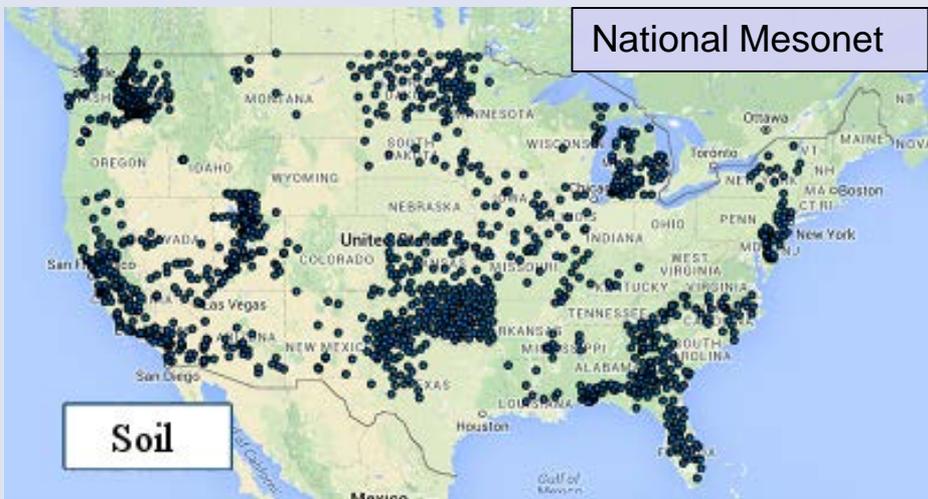
Geographic Coverage



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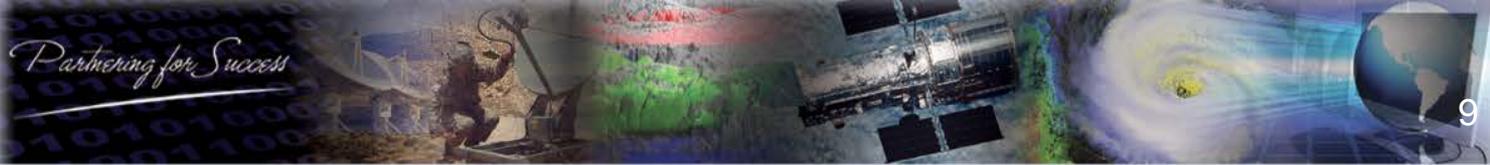


Geographic Coverage



National Mesonet soil stations nicely complement the **SCAN** and **SNOTEL** stations, filling void geography in a national domain

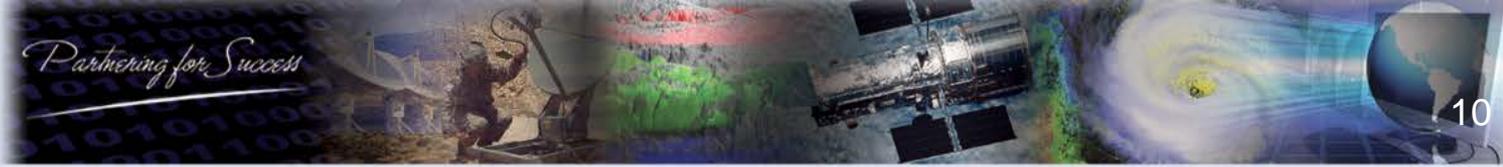




Metadata

► Metadata is provided by National Mesonet to NOAA

- SensorML and Starfish Fungus Language (*FL)
- Fundamental principal of separating static and dynamic elements
- **Static Files**
 - *SensorCharacteristics* - Factory specifications of a sensor or sensor package
 - *SensorProcedure* - Specification of attributes provided by sensor
- **Dynamic Files**
 - Description of deployment in the real world
 - *Platform* - Description of the platform location, responsible parties, etc.
 - *SensorDeployment* - Description of physical location of sensors in relation to *Platform*



The Future of NMP and Mesonets

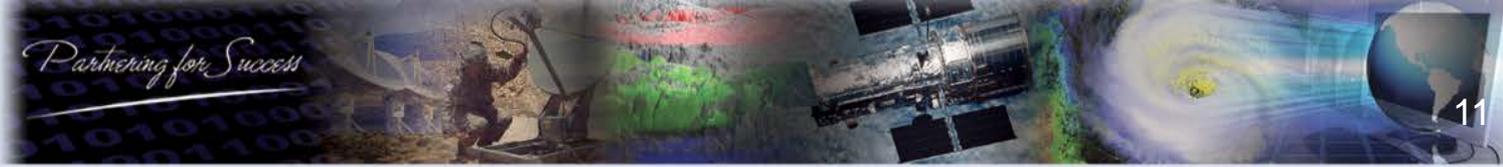
► National Mesonet Program – Soil data for NOAA

- Soil data obtained by NOAA via the NMP is available to NOAA's operations and centers, including the National Water Center
- The mesonet provider determines the Intellectual Property (IP) rights, which affects external distribution by MADIS
- NMP data formats and standards are developed for new networks that join in order to use a common framework
- Metadata is very important for depth, sensor, and platform info
- Additional agricultural mesonets continue to be added in geographic areas still deficient in soil data coverage
- Expect more interaction and exchange of QC information between data providers and NOAA in the years ahead



GLOBAL SCIENCE & TECHNOLOGY, INC.

Partnering for Success



Contacts

Global Science & Technology (GST) is the prime contractor for the NMP. GST welcomes the participation of high-quality mesonets that can service NOAA.

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